AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all previous claim listings and versions:

1. (Currently Amended) [[Dye]] A dye-in-polymer (DIP) medium for the recording layer of write-once-read-many (WORM) optical disks with fluorescent reading, containing:

a fluorescent dye capable of absorbing recording laser radiation, present in an amount of about 0.1 weight percent to 10 weight percent of the recording layer;

a non-fluorescent dye capable of absorbing recording laser radiation and transforming the absorbed radiation to heat;

a compound ~~capable of generating~~ that generates free radicals to decolorize the fluorescent dye, non-fluorescent dye, or both as a result of decomposition under heating induced by laser-radiation absorption by the fluorescent dye; and

a film-forming polymer ~~with high transparency, low head conductivity and providing the necessary quantum output of the dye fluorescence~~,

wherein the compound ~~generating~~ that generates free radicals is selected from the group consisting of azo-bisisobutyronitrile, p-bromobenzene diazohydroxide, ~~triphenylmethylazibenzene~~ triphenylmethylazobenzene, diazobenzoyl, nitrosoacetanilide, ~~and~~ peroxides, and a mixture thereof.

2. (Currently Amended) The DIP medium for the recording layer according to claim 1, wherein said fluorescent dye is chosen from one or more of xanthene dyes of the eosin and rhodamine groups, acridine, oxazine, azine, perylene, violanthrone, cyanine, phthalocyanine dyes, ~~indigoide colors~~ indigoid colorants and ~~porphyries~~ porphyrins.

3. (Cancelled)

4. (Currently Amended) The DIP medium for the recording layer according to claim 1, wherein said film-forming polymer is chosen from the group of resins consisting of cellulose esters, cellulose ethers, ~~and~~ acrylic resins, vinyl resins, and a mixture thereof.

5. (Currently Amended) The DIP medium for the recording layer according to claim 1, wherein the ~~recording layer also contains a~~ non-fluorescent dye ~~with~~ has an absorption spectrum range ~~just slightly~~ overlapping with the absorption and fluorescence spectrum ranges of the fluorescent dye and with the maximum absorption ~~and/or~~ or fluorescence spectrum range of the fluorescent dye.

6. (Currently Amended) The DIP medium for the recording layer according to claim 1, wherein the ~~recording layer also contains a~~ non-fluorescent dye ~~with~~ has an absorption spectrum range overlapping the absorption and fluorescence spectrum range of the fluorescent dye.

7. (Currently Amended) ~~Method~~ A method of obtaining a single-layer optical WORM disc, which comprises: ~~comprising the steps of~~

dissolving ~~the fluorescent dye, compound and film-forming polymer according to claim 1~~ a fluorescent dye capable of absorbing recording laser radiation; a compound that generates free radicals to decolorize the fluorescent dye as a result of decomposition under heating induced by laser-radiation absorption by the fluorescent dye; and a film-forming polymer, in an organic solvent chosen from the group consisting of alcohols, ketones, amides, sulfoxides, ethers, esters, halogenated aliphatic hydrocarbons and aromatic solvents to form a composition, or

introducing the ~~fluorescent~~ dye, compound and ~~film-forming~~ polymer ~~according to claim 1~~ into the solvent as microcapsules less than 0.2 micron in size to form a composition; and

covering said composition by spin coating, roller coating or dip coating on a substrate selected from the group consisting of glass, polymethylmethacrylate, polycarbonate, and polyethylene terephthalate disc,

wherein the dye is present in an amount of about 0.1 weight percent to 10 weight percent of a recording layer and the compound that generates free radicals is selected from the group consisting of azo-bisisobutyronitrile, p-bromobenzene diazohydroxide, triphenylmethylazobenzene, diazobenzoyl, nitrosoacetanilide, peroxides, and a mixture thereof.

8. (Currently Amended) ~~Method~~ A method of obtaining a single-layer optical WORM disc, comprising creation of a recording layer from two sub-layers, a lower

sub-layer containing fluorescent dye present in an amount of about 0.1 weight percent to 10 weight percent of the recording layer, and an upper sub-layer containing a substance generating free radicals to decolorize the fluorescent dye at high temperature.

9. (Currently Amended) ~~Method~~ A method of obtaining a single-layer optical WORM disc, comprising creation of a recording layer from two sub-layers, an upper sub-layer containing fluorescent dye present in an amount of about 0.1 weight percent to 10 weight percent of the recording layer, and a lower sub-layer containing a substance generating free radicals to decolorize the fluorescent dye at high temperature.

10. (Currently Amended) ~~Method~~ A method of obtaining a multilayer WORM disc by consecutive bonding of single-layer discs one to another, forming a multilayer system with two or more recording layers, in which the recording layers alternate with separating layers of substrate, wherein the recording layers comprise a fluorescent dye, capable of absorbing recording laser radiation, present in an amount of about 0.1 weight percent to 10 weight percent of the recording layer, a non-fluorescent dye that absorbs recording laser radiation and transforms a portion of the absorbed radiation to heat, and a compound capable of generating free radicals to decolorize the fluorescent dye, non-fluorescent dye, or both as a result of decomposition under heating induced by laser-radiation absorption by the fluorescent dye.

11. (Cancelled)

12. (Currently Amended) The DIP medium for the recording layer according to claim 1, wherein the content of said compound~~, capable of generating~~ that generates free radicals, in the recording layer ranges from about 0.1 percent to 20 percent~~0.1-20%~~.

13. (Currently Amended) The DIP medium for the recording layer according to claim 1, wherein the peroxides are selected from the group consisting of benzyl peroxide and tert-dibutyl peroxide, and a combination thereof.

14. (Currently Amended) The DIP medium for the recording layer according to claim 4, wherein the cellulose esters are selected from the group consisting of nitrocellulose, cellulose acetate, ~~and~~ cellulose acetate butyrate, and a combination thereof.

15. (Currently Amended) The DIP medium for the recording layer according to claim 4, wherein the cellulose ethers are selected from the group consisting of methyl cellulose, ethyl cellulose, butyl cellulose, and a combination thereof~~and vinyl resins,~~ and the vinyl resins are selected from the group consisting of polyvinyl acetate, polyvinyl butyral, polyvinyl acetyl, polyvinyl alcohol, ~~and~~ polyvinyl pyrrolidone, and a combination thereof.

16. (Currently Amended) The DIP medium for the recording layer according to claim 4, wherein the acrylic resins are selected from the group consisting of polymethylmethacrylate, polybutyl acrylate, polymethacrylic acid, polyacryl amide, ~~and~~ polyacrylonitrile, and a combination thereof.

17-18. (Cancelled)

19. (Previously Presented) A recording layer comprising the DIP medium according to claim 1, wherein the recording layer is 100 nm to 1000 nm in thickness.

20. (Currently Amended) A recording layer comprising the DIP medium according to claim 1, wherein the recording layer is 200 nm to less than 500 nm in thickness.

21. (New) The DIP medium of claim 1, further comprising a compound that can be used to lower the decomposition temperature of the compound that generates free radicals.

22. (New) The DIP medium of claim 21, wherein the compound that lowers the decomposition temperature comprises a zinc, lead, or cadmium salt of an aliphatic acid; urea; or ethanolamine, or a combination thereof.

23. (New) The DIP medium of claim 21, further comprising a compound that prevents free radical oxygen deactivation.

24. (New) The DIP medium of claim 23, wherein the compound comprises one or more of n-butylamine, dimethylaminoethyl methacrylate, diethyl-n-butylphosphine, or isoamyl 4-dimethylaminobenzoate.